

REMARKS/ARGUMENTS

Favorable reconsideration of the present application is respectfully requested.

The nonelected Claims 51-66 have been canceled.

Independent Claim 34 has been canceled in favor of new independent Claims 67-70, each of which has been rewritten to positively recite the manipulative steps thereof. This, coupled with the cancellation of Claim 41, is believed to overcome the rejection under 35 U.S.C. §112.

New Claims 67-70 further include features of several of the canceled dependent claims. For example, new Claim 67 recites the feature of cancelled Claim 38 of modification of the effective width/area of the plasma by rotating a slit shaped nozzle. New Claims 68-69 respectively recite the feature of canceled Claim 42 that the row of nozzles, or the slit nozzle, pivot in the region of a corner of the substrate. New Claim 70 recites the shield feature of canceled Claim 45. The remaining claims have been canceled or amended to depend from the newly introduced claims.

It has been known, e.g., from U.S. patent 5,837,958 (Fornsel) to remove a coating from a workpiece using a plasma emitted from a plurality of circular nozzles 24 arranged in at least one row, the nozzles being mounted in a discharge head 40 which may be moved in the direction "A" relative to the surface to be treated. The width of the surface to be treated can be adjusted by turning certain of the nozzles 24 on or off (column 5, lines 46-53).

New Claim 67 recites a process for removing a coating from coated substrates, wherein the effective plasma width/area is instead modified by rotating at least one slit shaped nozzle. This feature had been recited in canceled Claim 38, which had been rejected under 35 U.S.C. §103 as being obvious over Fornsel in view of U.S. patent publication 2003/0106788 (Babko-Malyi). According to the Office Action, Babko-Malyi teaches that an aperture 625 for discharging a plasma may be formed as a hole or a slit. According to the

Office Action, “the slit shaped source...inherently changes coverage width of the plasma.”

However, this rejection is respectfully traversed.

As noted above, it has been known from Fornsel to discharge plasma from nozzles 24 to remove a coating from a substrate, but the nozzles in Fornsel are circular and not slit shaped. Needless to say, rotation of a circular nozzle will not modify the effective plasma width or area, and so Fornsel cannot teach modifying the effective plasma width or area by rotating at least one of the nozzles 24.

As the Office Action has correctly noted, slit shaped nozzles for emitting plasma are also known, e.g., from Babko-Malyi. What is not taught in Fornsel or Babko-Malyi, however, is *to rotate a slit shaped nozzle* to modify the effective plasma width or area as is recited in Claim 67. **The mere fact that a plasma nozzle may be slit shaped does not teach rotating the slit shaped nozzle to modify an effective plasma width or area.** Thus, Babko-Malyi could not teach rotating a slit shaped nozzle incorporated into Fornsel and so Claim 67 is unobvious from any combination of Fornsel and Babko-Malyi.

Claims 68-69 instead recite steps of producing a relative movement between the plasma and the substrate, parallel to the edge of the substrate, and respectively pivoting the row of nozzles, or a slit shaped nozzle, about an axis perpendicular to the substrate in the region of a corner of the substrate, before producing a relative movement between the plasma and substrate parallel to another edge of the substrate. Thus, it is possible to negotiate a corner by pivoting the entire row of nozzles or a slit shaped nozzle about an axis perpendicular to the substrate.

Claim 42, which recited these features, had been rejected under 35 U.S.C. §103 as being obvious over Fornsel in view of U.S. patent 6,238,587 (Siniaguine et al). According to the Office Action, Siniaguine et al teaches “that it is useful to vary the angle of the plasma jet relative to the coating to be removed.” However, it is noted that the cited portion of

Siniaguine et al (column 3, lines 27-41) merely describes that the *angle of incidence* of the plasma jet relative to the surface of the article may be varied. It does not teach that a row of nozzles, or a slit shaped nozzle, should be pivoted about an axis perpendicular to the substrate in the region of a corner of the substrate, and so Siniaguine et al. could not have taught one skilled in the art to have modified Fornsel in this manner. New Claims 68-69 therefore define over this prior art.

Claim 70 recites a step of positioning a flat shield directly adjacent the substrate surface. Canceled Claim 45 had recited positioning the flat shield but was “given little patentable weight” because the shield itself is a device. It is noted that none of the cited prior art is asserted to teach positioning a flat shield directly adjacent the substrate surface. Claim 70 recites the shield in the context of a process step (“*positioning* a flat shield directly adjacent to the substrate surface”), and so is believed to be patentable.


Applicants therefore believe that the present application is in a condition for allowance and respectfully solicit an early notice of allowability.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,
MAIER & NEUSTADT, P.C.

Customer Number
22850

Tel: (703) 413-3000
Fax: (703) 413 -2220
(OSMMN 08/07)
RTP/rac



Robert T. Pous
Attorney of Record
Registration No. 29,099